

ABSTRACT

According to the present invention there is
5 provided a process for upgrading an ore or concentrate
that contains metal sulphur minerals and gangue material.
The process includes the stages of:

10 a) selectively leaching the ore or concentrate using
an ammoniacal solution containing ammonium carbonate that
forms soluble metal ammine complexes;

15 b) separating the solid and liquid phases formed in
stage a) with the liquid phase forming a solution
including soluble metal ammine complexes and the solid
phase including at least in part the gangue material;

c) removing ammonia and carbon dioxide from the
liquid phase formed in step b) under conditions so as to
selectively precipitate the valuable metal(s); and

20 d) separating the solid and liquid phases formed in
stage c) with the solid phase forming a more-concentrated
source of valuable metal.